Identification of Clostridium Isolated from the Intestinal Tract of Ostrich

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Background & Objectives: The Clostridium species are large, rod-shaped, Gram-positive, anaerobic and spore-forming Bacteria. Clostridia are widespread in the environment and are normally found in soil and feces. They are also present in the gastrointestinal tract and as spores in tissues of healthy animals. This genus has over than 200 types, of which 15 types are important in pathogenic and food poison. No study has been so far done on identifying the present clostridium in the gastrointestinal tract of ostriches by biochemical tests.The Purpose of this study is isolation and identification of different clostridium pathogens in the intestinal tract of ostriches.

Methods: In this research 87 ostrich-dung samples were collected randomly from different areas of Kerman province. After sample processing and culture, isolated clostridium bacteria were identified with colony morphology, gram stain and biochemical tests such as Catalase, carbohydrates fermentation (glucose, lactose, maltose and sucrose), gelatin hydrolyze, Indole production, litmus milk reaction, lecithin hydrolyze, lipase and motility.

Results: The results of this research from all samples showed 22 types of clostridia isolated including *Clostridium perfringens* (8 isolates), *sphenoides* (3 isolates), *butyricum* (2 isolates), *histolyticum* (2 isolates), *putrificum* (2 isolates), *innocum* (2 isolates), *septicum* (1 isolates), *baratii* (1 isolates) *carnis* (1 isolates).

Conclusion: Prevention of clostridial diseases in ostriches is important in public health and food poisoning in humans. In this study 25 percent of samples were positive for clostridium types that show sensitivity of Ostrich towards clostridial diseases. Also *Clostridium perfringens* was more prevalent type of clostridia genus that was isolated and included 36 % of total clostridia isolates. This study has been the first step for more and better identification of Clostridium types in ostrich and we can produce specific clostridium vaccine and preventing from clostridial disease in this animal by identifying the important pathogen varieties in ostrich.

Keywords: Clostridium; Intestinal Tract; Ostrich